

### ABSTRACT

A Doherty amplifier system including a quarter wave transformer/combiner circuit which may be implemented as a low cost radio frequency integrated circuit, thereby  
5 absorbing and minimizing the effects of parasitics such as bond wires and stray capacitance. The quarter wave transformer/combiner circuit may be a lumped pi network configured as an integral number of sections coupled in parallel, with each such section comprising a series combination of a shunt inductance, series capacitance, and shunt inductance. The circuit may also provide bias voltage to the carrier and peaking  
10 amplifiers and/or maintain DC isolation therebetween. The circuit may also decrease the load impedance presented to the carrier amplifier as input power increases, thus allowing the efficiency of the system to be kept relatively constant over a prescribed power range.